



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,679	03/30/2001	Srinivas Kandala	8371-117/SLA0348	9227

56420 7590 08/22/2006

SHARP LABORATORIES OF AMERICA, INC.
1320 PEARL ST.
SUITE 228
BOULDER, CO 80302

EXAMINER

MATTIS, JASON E

ART UNIT PAPER NUMBER

2616

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

5/

Office Action Summary	Application No. 09/822,679	Applicant(s) KANDALA, SRINIVAS	
	Examiner Jason E. Mattis	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-29,31-33 and 35-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-29,31-33 and 35-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the amendment filed 5/30/06. Claims 24, 30, and 34 have been cancelled. Claims 25-29, 31-33, and 35-41 are currently pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 25-29, 31-33, and 35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (U.S. Pat. 6850981 B1) in view of Zavalkovsky et al. (U.S. Pat. 6959332 B1).

With respect to claim 25, Ho et al. discloses a wireless communication system comprising a first wireless communication node having a first MAC layer element and a first physical layer element **(See column 4 line 61 to column 5 line 10 and Figure 1 of Ho et al. for reference to devices that are part of a WLAN, which is a wireless communication system, and for reference to a non-PC/AP STA, which is a first wireless communication node, that has a local frame classification entity (FCE), which is a MAC layer element located at the MAC sublayer, and also has a**

Art Unit: 2616

physical layer that is interfaced, or coupled, with the MAC layer). Ho et al. also discloses that the MAC layer element generates a request to transmit a particular data element with the request including a transmission bandwidth and priority and that the request is transmitted at the physical layer element **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to generating a request for a session, which is a request to transmit a data element, with the request including a transmission bandwidth and a priority level and for reference to transmitting the request).** Ho et al. further discloses a second wireless communication node having a second physical layer element and a second MAC layer element **(See column 4 lines 37-60 and Figure 1 of Ho et al. for reference to a PC/AP STA, which is a second wireless communication node, that has a frame scheduling entity (FSE), which is a second MAC layer element located at the MAC sublayer, and also has a physical layer that is interfaced, or coupled, with the MAC layer).** Ho et al. also discloses the second MAC layer element adapted to determine acceptance of the request based on the transmission bandwidth and schedule transmission of the data element based on the transmission priority **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to an admission control technique performed by the FSE in the MAC sublayer that determines the acceptance of a request based on the bandwidth of the request and schedules transmission based on the priority of the data).** Ho et al. does not disclose that the priority for the data element is encoded in an IEEE 802.1Q tag within the request.

With respect to claim 31, Ho et al. discloses a wireless communication node comprising a physical layer element and a MAC layer element coupled to the physical layer element **(See column 4 lines 37-60 and Figure 1 of Ho et al. for reference to a PC/AP STA, which is a wireless communication node, that has a frame scheduling entity (FSE), which is a second MAC layer element located at the MAC sublayer, and also has a physical layer that is interfaced, or coupled, with the MAC layer)**. Ho et al. also discloses the MAC layer element adapted to determine acceptance of a request received by the physical layer element based on the transmission bandwidth and schedule transmission of the data element based on the transmission priority **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to an admission control technique performed by the FSE in the MAC sublayer that determines the acceptance of a request received at the physical layer based on the bandwidth of the request and schedules transmission based on the priority of the data)**. Although Ho et al. discloses using IEEE 802.1Q tags **(See column 12 lines 7-28 of Ho et al. for reference to encoding priority in an 802.1Q tag)**, Ho et al. does not disclose that the priority for the data element is encoded in an IEEE 802.1Q tag.

With respect to claim 35, Ho et al. discloses a first wireless communication node comprising a first MAC layer element and a first physical layer element coupled to the MAC layer element **(See column 4 line 61 to column 5 line 10 and Figure 1 of Ho et al. for reference to devices that are part of a WLAN, which is a wireless communication system, and for reference to a non-PC/AP STA, which is a first**

wireless communication node, that has a local frame classification entity (FCE), which is a MAC layer element located at the MAC sublayer, and also has a physical layer that is interfaced, or coupled, with the MAC layer). Ho et al. also discloses that the MAC layer element generates a request to transmit a data element with the request including a transmission bandwidth and priority and that the request is transmitted at the physical layer element **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to generating a request for a session, which is a request to transmit a data element, with the request including a transmission bandwidth and a priority level and for reference to transmitting the request).** Ho et al. further discloses a second wireless communication node comprising a physical layer element and a MAC layer element **(See column 4 lines 37-60 and Figure 1 of Ho et al. for reference to a PC/AP STA, which is a wireless communication node, that has a frame scheduling entity (FSE), which is a second MAC layer element located at the MAC sublayer).** Ho et al. also discloses the second MAC layer element adapted to determine acceptance of a request based on the transmission bandwidth and schedule transmission of the data element based on the transmission priority **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to an admission control technique performed by the FSE in the MAC sublayer that determines the acceptance of a request based on the bandwidth of the request and schedules transmission based on the priority of the data).** Ho et al. does not disclose that the priority for the data element is encoded in an IEEE 802.1Q tag.

With respect to claim 39, Ho et al. discloses a method for wireless communication **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to a method for scheduling wireless communication)**. Ho et al. also discloses receiving a request to transmit a data element with the request including a transmission bandwidth and priority **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to receiving a request for a session, which is a request to transmit a data element, with the request including a transmission bandwidth and a priority level)**. Ho et al. further discloses determining acceptance of the request based on transmission bandwidth and scheduling transmission of the data based on the transmission priority without resort to any network layer element **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to an admission control technique performed by the FSE in the MAC sublayer that determines the acceptance of a request based on the bandwidth of the request and schedules transmission based on the priority of the data and for reference to the process being performed at the MAC layer without using any network layer element)**. Ho et al. does not disclose that the priority for the data element is encoded in an IEEE 802.1Q tag.

With respect to claims 25, 31, 35, and 39, Zavalkovsky et al., in the field of communications, discloses encoding priority in an IEEE 802.1Q tag **(See column 2 lines 13-26 of Zavalkovsky et al. for reference to encoding priority in an IEEE 802.1Q tag)**. Encoding priority in an IEEE 802.1Q tag has the advantage of allowing a

requested quality of service for a particular data element to be signaled such that the data element may be processed according to the required quality of service.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Zavalkovsky et al., to combine encoding priority in an IEEE 802.1Q tag, as suggested by Zavalkovsky et al., with the system and method of Ho et al., with the motivation being to allow a requested quality of service for a particular data element to be signaled such that the data element may be processed according to the required quality of service.

With respect to claim 26, Ho et al. discloses that the transmission bandwidth is determined based on an examination of the data element **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to transmission bandwidth needed being based on they type of data that will be sent in a data session)**.

With respect to claims 27, 32, and 36, Ho et al. discloses that the second MAC layer element determines acceptance and schedules transmission without resort to any network layer element **(See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to the determining and scheduling being performed at the FSE, or MAC layer element, without using any network layer element)**.

With respect to claims 28 and 37, Ho et al. disclose that the first node is an IEEE 802.11 peripheral system **(See column 4 line 61 to column 5 line 10, column 10 line 63 to column 11 line 10, and Figure 1 of Ho et al. for reference to the first**

node being a non-PC/AP STA, which is a peripheral system, and for reference to nodes of the system using 802.11 protocol).

With respect to claims 29, 33, and 38, Ho et al. discloses that the second node is an IEEE 802.11 access point (See column 4 lines 37-60, column 10 line 63 to column 11 line 10, and Figure 1 of Ho et al. for reference to the first node being a PC/AP STA, which is an access point, and for reference to nodes of the system using 802.11 protocol).

With respect to claim 40, Ho et al. discloses that the determining and scheduling are performed by a MAC layer element (See column 10 line 18 to column 11 line 47 and Figure 4 of Ho et al. for reference to the determining and scheduling being performed at the FSE, or MAC layer element, without using any network layer element).

With respect to claim 41, Ho et al. discloses that the method is performed by an IEEE 802.11 access point (See column 4 lines 37-60, column 10 line 63 to column 11 line 10, and Figure 1 of Ho et al. for reference to the method being performed by a PC/AP STA, which is an access point, and for reference to nodes of the system using 802.11 protocol).

Response to Arguments

4. Applicant's arguments have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Zavalkovsky et al., as shown above.

In response to the Applicant's Argument that Ho et al. does not disclose a request to transmit a particular data element, the examiner respectfully disagrees. While it may be true that Ho et al. discloses a "per session" reservation style, there is currently no limitation in the claims limiting the reservation style to a "per data element" style. The claim language stating "a request to transmit a particular data element" does not limit the request from being a request for a data session that includes the transmission of the particular data element. Therefore, the claims currently do not contain any limitation regarding making request for each data element independently from each other as argued.

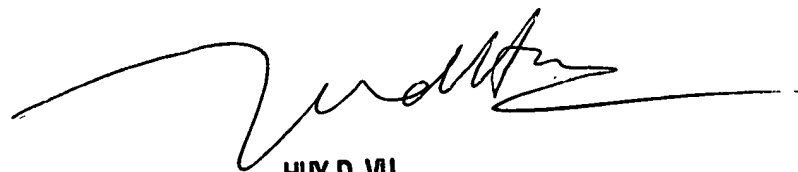
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jem

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal line extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600